Amendments to the Specification:

Please replace paragraph beginning on line 1 of page 4 with the following amended paragraph:

In one embodiment, the ~~resolution is a resolution~~ metric signal reflects a time difference between leading and trailing edges of the received signal, i.e. a "separation distance". In this case, the metric processor computes an opening in an eye diagram of the signal received by the master. In another embodiment, the ~~resolution is a resolution between~~ metric signal reflects amplitude differences between the received signal and allowed amplitude levels of the received signal. In this latter case, the metric processor computes the proportion of samples of the signal received by the master falling within allowed amplitude levels relative to those that fall outside of allowed amplitude levels.

Please replace paragraph 2 beginning on line 30 of page 7 through line 14 on page 8 with the following amended paragraph:

In general, an eye-diagram illustrates the separation between pulse edges of a series of successive pulses superimposed on one another in accordance with a periodic sampling rate corresponding to the pulse rate. The concept is illustrated in FIGs. 3A-3C. FIG. 3A illustrates a pulse signal captured during a sample window and consisting of a logic HI state preceded and followed by logic LO states. FIG. 3B illustrates a pulse signal captured during another sample window of the same duration consisting of a logic LO

state preceded and followed by logic HI states. The two sample windows are displaced in time by an integral number of periods of the pulse signal. Superimposing the signal images captured in successive sample windows results in the waveforms of FIG. 3C. FIG. 3C is referred to as the eye diagram of the receiver. The superimposed waveform image of FIG. ~~2~~3C may be thought of as an oscilloscope trace, in which the oscilloscope is triggered by a clock locked to the transmitting source generating the input signal~~ 100~~. (However, the clock used to trigger this imaginary oscilloscope is not necessarily available).

Please replace paragraph beginning on line 21 of page 11 with the following amended paragraph:

This problem is solved by providing in each master 115a-115d a metric processor ~~270a-270d, respectively~~270, capable of assessing the quality of the eye diagram opening illustrated in FIGs. 3C and 4 and outputting a corresponding metric. To the extent that the cross-talk and echo noise introduces ambiguity in the separation across the eye diagram opening, the metric processor will respond by reducing the metric. A decision processor 285 monitors the metric signal issued by the metric processors 270, and determines the optimum delay for the controllable delay element 232 that maximizes the metric signal. It controls the delay element controller 260 by transmitting commands over the channel 110a via the transmitter 130. The controller 260 responds to the delay command received via the channel from the decision processor 285.

Please replace paragraph beginning on line 26 of page 13 through line 11 of page 14 with the following amended paragraph:

The metric processor 270, in a first embodiment, outputs a metric signal whose magnitude represents a metric corresponding to the separation distance of FIG. 3C. In this first embodiment, the metric processor 270 generates N equally spaced clocks that are derived from its local clock input. Each of these N clocks is sampled by the output of a slicer 310 of the signal processor 140, producing an N-element vector of 0's and 1's. Many, say 64, of these N-element vectors are summed, producing another N-element vector of sums or amplitudes. Then, the metric processor intelligently sorts the N cumulative amplitudes into two groups of N/2 consecutive cumulative amplitudes. There are N possible groupings, but the processor 270 selects the one grouping having the greatest contrast between the two groups. In the preferred embodiment, this contrast is the difference between the sums of the cumulative amplitudes of each group. Preferably, this difference is the metric signal produced by the metric processor 270. In an alternative embodiment, the contrast is the ~~ratio~~ difference between the sums of the cumulative amplitudes of each group, and this ~~ratio~~ difference is output as the metric signal.

Please replace paragraph beginning on line 3 of page 15 with the following amended paragraph:

FIG. 6 illustrates an embodiment of the metric processor 270. The output of a slicer is applied in parallel to the clock input of N D-flip-flops (DFF) 410-1

through 410-8. Each DFF 410 samples its respective version of the shifted local clock at the edge of the slicer output. In the example of FIG. 6, N=8. The output of DFF 410 is applied to one input of a corresponding adder ~~415~~ in adders 415, the latter containing adders 415-1 through 415-8. The output of the ~~adder~~ adders 415 is applied to an accumulate register 420, formed individual registers 420-1 through 420-8 whose output is fed back to the other input of the ~~adder~~ adders 415. After an appropriate number (M) of slicer output edges, each accumulate register 415 holds a fairly large sum. At this time, therefore, all of the accumulate registers 415 write their contents to corresponding word locations in a serial-parallel shift register 425.

Please replace paragraph beginning on line 18 of page 15 through line 5 of page 16 with the following amended paragraph:

The serial-parallel shift register 425 is divided into word cells 425-1 through 425-8, each word cell receiving the output of a corresponding ~~accumulate register~~ one of the accumulate registers 420 at the end of M sample windows. For this purpose, the parallel shift enable input 425a of the serial-parallel shift register 425 is strobed with a version of the local clock signal with frequency divided by N times M. After the N cumulative amplitudes are loaded into corresponding word cells 425-1 through 425-8, the contents of the shift register 425 are serially shifted word-by-word. With each shift, adders 430 and 435 compute the sums of the contents of respective halves of the shift register 425, and a subtractor 440 computes the difference between the two sums. ~~(Alternatively, a divider may be employed in lieu of~~

~~the subtractor to produce a ratio instead of a difference.)~~ A processor 450 stores each difference. After N serial shifts of the shift register 425, all possible groupings of the cumulative amplitudes have been made, and therefore the processor 450 chooses the largest difference and outputs that as the metric. The advantage is that no information is required regarding the location of the edges with respect to the N-shifted local clocks in order to obtain the correct grouping of the cumulative amplitudes.

Please replace paragraph beginning on line 20 of page 17 with the following amended paragraph:

Referring to FIG. 9, it is seen that a fairly large fraction of the samples deviate more than 10% from the nearest allowed level of 100, 0 or -100. Thus, one practical choice for the ~~white box~~ metric, a so-called "white-box" metric, is to define one of the invalid regions as lying between 10 and 90 and the other as lying between -10 and -90. In this case, a practical ~~choice~~ criteria for ~~the tightness metric~~ a metric based on tightness (i.e. a so-called "tightness" metric) is to define all first order differences that are 5 or less as satisfying the tightness criteria. FIG. 10 illustrates how these choices would be carried out in implementing an embodiment of the invention.

Please replace paragraph beginning on line 11 of page 19 with the following amended paragraph:

The invention has been described with reference to embodiments in which the master has a metric processor responsive to signal resolution, and a decision processor

shifts the sample time of the master with respect to the master clock signal to optimize the output of the metric processor. However, the invention may also be carried out in a more robust manner by providing the metric processor 270 with each master 115 and a metric processor 270' with each slave 120, as indicated in dashed line in Fig. 1. In such an embodiment, each master would request its slave to transmit the output of the slave's metric processor. Thus, the decision processor 285 associated with all the masters 115 could be programmed to shift the sample time to optimize both the signal resolution metric at the master (computed by the master's metric processor 270) and the signal resolution metric at the slave (computed by the slave's metric processor ~~270"~~270').